

IOWA STATE UNIVERSITY

Digital Repository

Agriculture and Environment Extension
Publications

Agriculture and Natural Resources

9-1997

Livestock Industry Facilities and Environment: Swine Cooling Methods—Drip Cooling

Jay D. Harmon

Iowa State University, jharmon@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/extension_ag_pubs



Part of the [Agricultural Education Commons](#), and the [Bioresource and Agricultural Engineering Commons](#)

Recommended Citation

Harmon, Jay D., "Livestock Industry Facilities and Environment: Swine Cooling Methods—Drip Cooling" (1997). *Agriculture and Environment Extension Publications*. 172.

http://lib.dr.iastate.edu/extension_ag_pubs/172

Iowa State University Extension and Outreach publications in the Iowa State University Digital Repository are made available for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current publications and information from Iowa State University Extension and Outreach, please visit <http://www.extension.iastate.edu>.

Swine Cooling Methods - *Drip Cooling*¹



Livestock
Industry
Facilities &
Environment

Description: Drip cooling systems are used to drip water on the shoulder of sows or boars in a crated situation. This allows evaporation of the water which removes heat from the neck where a large blood supply is present. It is best used for systems where the animal is confined below the drip nozzle. In farrowing crate usage it has been shown to reduce sow respiration rate, increase feed consumption and improve litter weights.

Probable Uses:

- Crated gestating sows
- Crated boars
- Sows in farrowing crates

Advantages:

- Relatively simple
- Low cost
- Relatively trouble-free
- Effectively cools animals without wetting the surrounding area

Disadvantages:

- Adjustment is tricky
- Water lines installed on the ceilings require long drip tubes which may fall into the manure system or may miss the targeted drip area

Design Information

Complete drip systems are available from commercial vendors. Drip lines should be placed approximately 20 inches behind the head gate of crates. Consider installing dripper water lines on top of gestation crates rather than on the ceiling. This will reduce the need for drip tubes that will get pulled off and dropped into the manure pit. The water flow rate of each dripper should be $\frac{1}{2}$ to $\frac{3}{4}$ gallon per hour. Thermostats should be set to trigger the system at about 82 F. Adjust the thermostat depending on signs of heat stress. Air moving over the animals reduces heat stress further.

Further Information:

For further information see "Heating, Cooling and Tempering Air for Livestock Housing", MWPS-34. This 47 page handbook is available for \$6 plus handling from county Extension offices or by calling 1-800-562-3618. Also available is "Drip Cooling of Sows in Farrowing House", Pm-1261. This was written by Dr. Vern Meyer and is a one page ISU Extension fact sheet available free of charge.

¹ By Jay D. Harmon, Ph.D., PE., Extension Agricultural Engineer, Iowa State University.